Arizona Health Care Cost Containment System

Medical Audit
AHCCCS
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ANNUAL MEDICAL AUDIT:

Children's Oral Health Visits
Performance Improvement Project Baseline Measurement

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EXECUTIVE SUMMARY

Background

Tooth decay is one of the most common infectious diseases among children today.[1] Nationally, children lose more than 51 million school hours each year due to dental disease or dental visits.[2]

According to the Arizona Office of Oral Health, at 2 years of age, 5 percent of all Arizona children have some tooth decay. By the time they reach 8 years old, 60 percent of all Arizona children will have tooth decay. This compares with a national rate of 52 percent of all children 8 years old who have tooth decay.[3]

A number of studies point to disproportionately low use of dental services among some racial or ethnic groups and low-income people, as well as high rates of dental disease relative to the rest of the population. [1,2,4-9] Increased access to oral health services, such as the application of topical fluorides and dental sealants, as well as patient/caregiver education, are key to reducing the rate of tooth decay and other oral diseases among children.[1,4]

AHCCCS and Healthy People Goals

AHCCCS has established long-range goals, or benchmarks, for Contractors to achieve in ensuring annual dental visits among children and adolescents, based on the objective set by the United States Department of Health and Human Services (DHHS) in *Healthy People 2010.* The Healthy People 2010 objective is to increase the proportion of children and adults who use the oral health care system each year (i.e., have an annual dental visit) to 56 percent. Likewise, AHCCCS has established a benchmark of 56 percent for children's annual dental visits. This benchmark applies to acute-care Contractors and the Department of Economic Security's two programs that serve AHCCCS-eligible children, the Comprehensive Medical and Dental Program (CMDP) and the Division of Developmental Disabilities (DDD).

Purpose

The purpose of the Oral Health Performance Improvement Project (PIP) is to increase the rate of annual dental visits among AHCCCS members 3 through 20 years old, in order to make more progress toward AHCCCS and national Healthy People 2010 goals. As a first step, AHCCCS established a baseline measure of annual dental visits overall and by Contractor from which to measure improvement. This baseline measure also serves as the AHCCCS Annual Medical Audit.

The project will specifically focus on children who are 3 through 8 years old for the acute-care, CMDP, KidsCare (the state Children's Health Insurance Program or SCHIP) and DDD populations. As previously noted, literature suggests that the rate of tooth decay increases dramatically between the ages of 3 through 8; thus, this appears to be a critical time in a child's life to ensure that he or she receives regular preventive dental care. All members 3 through 20 years who are enrolled in the Arizona Long Term Care System (ALTCS) are included in the measurement, in order to have an adequate number from which to draw valid conclusions for that population.

Methodology

Using methodology developed by the National Committee for Quality Assurance (NCQA) for the Health Plan Employer Data and Information Set (HEDIS®), AHCCCS measured annual dental visits among members ages 3 through 8 (ages 3 through 20 years if enrolled in ALTCS) who were continuously enrolled during the measurement period. Data for the baseline measurement were collected from AHCCCS administrative data (i.e., records of claims paid by Contractors known as encounters). The measurement period was the contract year from October 1, 2001, through September 30, 2002.

As part of this project, AHCCCS also validated dental visits found in AHCCCS administrative data against members' dental or medical charts. A validation sample was selected from the baseline numerator, stratified by program (Medicaid acute-care, KidsCare, etc.) and by Contractor (because of the relatively small ALTCS population, all children in the baseline numerator were included in the validation sample). Sample selection was calculated to provide a 95-percent confidence level and a 5-percent confidence interval. After receiving their samples, Contractors submitted to AHCCCS documentation of dental visits from members' records.

Overall Findings

The total number of members selected for the baseline measurement, including all programs, was 76,702. Of these members, 39,423 members (51.4 percent) had at least one encounter for a dental visit during the measurement period.

Rates by type of program were as follows:

- For children enrolled with acute-care Contractors under Medicaid, the baseline rate was 51.3 percent.
- For children enrolled with acute-care Contractors under KidsCare, the baseline rate was 59.5 percent.
- For children enrolled with DES/CMDP, the baseline rate was 61.4 percent.
- For children enrolled with DES/DDD, the baseline rate was 30.9 percent.
- For children enrolled with ALTCS Contractors, the baseline rate was 24.3 percent.

Data Validation

Encounters for 97.2 percent of the validation sample were validated against dental or medical charts. For the remaining 2.8 percent, encounters could not be validated because no dental service within the measurement period was found in members' records or the charts could not be obtained by Contractors.

Analysis and Conclusions

Data analysis using Pearson's Chi-square revealed that children enrolled in AHCCCS under CMDP or KidsCare were more likely to have an annual dental visit than children enrolled under Medicaid, DDD or ALTCS ($p<.001$ for all comparisons). Children in Maricopa County were more likely to have an annual dental visit than those living in Pima County or the rural counties combined ($p<.001$).

AHCCCS also calculated the percent of children who had only preventive dental services during the year, compared with treatment only or both preventive and treatment services. Of all children with a dental visit, 40.3 percent received preventive services only, 2.5 percent had treatment services only, and 57.2 percent had both preventive and treatment services.

Overall, the baseline study for this project indicates that more than half of AHCCCS members had at least one dental visit within the measurement year. Rates of annual dental visits for children enrolled under KidsCare and DES/CMDP exceeded the Healthy People 2010 objective of 56 percent.

However, there is room for improvement in ensuring children have access to dental services and better oral health. AHCCCS already has provided baseline data from this study to all Contractors, who further analyzed their data and identified interventions to improve rates of annual dental visits. In the contract year ending September 30, 2004, Contractors are focusing interventions to improve the use of dental services and oral health among children enrolled in their plans.

To assist AHCCCS Contractors in improving or enhancing those interventions, the AHCCCS Clinical Quality Management Unit synthesized research and literature on oral health initiatives from a variety of sources. The Chronic Care Model, developed by Wagner, et al, of the MacColl Institute for Healthcare Innovation at Group Health Cooperative, was adapted for use in organizing various interventions for improving oral health. This model identifies essential elements of a health care system that encourage high-quality care. By ensuring that each of these elements is adequately addressed, health care organizations can expect healthier patients, more satisfied providers, and cost savings.[10]

Through this Performance Improvement Project, all Contractors are expected to increase their rates of annual dental visits. Contractors should strive to meet or exceed the Healthy People 2010 goal or the AHCCCS overall average for their respective program (i.e., Medicaid Acute-care, KidsCare, etc.). A Contractor will show improvement when:

- It meets or exceeds the next highest threshold (e.g., the AHCCCS overall average) above its baseline rate (the increase must be statistically significant),
- It "narrows the gap" between its baseline rate and the next highest threshold by at least 10 percent (the increase must be statistically significant), or
- It maintains a rate above the highest threshold, which is the Healthy People 2010 goal, if its baseline rate already exceeds that level.

AHCCCS will work with Contractors, especially those with the lowest rates, to assist them in making progress toward these goals for performance improvement.

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Arizona Health Care Cost Containment System (AHCCCS)

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I. INTRODUCTION

Background

Oral health is inseparable from overall health status.[1,2] Oral diseases are progressive and cumulative and become more complex over time. They can affect our ability to eat, the foods we choose, how we look, and the way we communicate. These diseases can affect economic productivity and compromise our ability to work at home, at school, or on the job.[3]

Most oral diseases are preventable. For example, cavities (known as dental caries) are primarily caused by a bacterial infection that is transmitted from mother or other caregiver to child. Thus, reducing the bacterial infection in the mother or other caregiver and preventing its transmission can significantly improve the oral health of young children.[4,5]

Yet, tooth decay is one of the most common infectious diseases among children today.[1] It is five times more common than asthma in children 5 to 17 years old. Nationally, children lose more than 51 million school hours each year due to dental disease or dental visits.[3]

The Arizona Department of Health Services (ADHS) has reported that 31 percent of all children younger than 18 in the state have never had a dental check up. At 2 years of age, 5 percent of all Arizona children have some tooth decay, according to the Arizona Office of Oral Health. By the time they reach 8 years old, 60 percent of all Arizona children will have tooth decay. This compares with a national rate of 52 percent of all children 8 years old.[2]

A number of national and state studies point to disproportionately low use of dental services among some racial or ethnic groups and low-income people, as well as high rates of dental disease relative to the rest of the population. [1,2,6-11] According to the U.S. Department of Health and Human Services (DHHS), Hispanic and black children ages 6 to 8 years have higher rates of untreated dental decay than non-Hispanic white children.[6] Only 20 percent of children and adolescents in families with incomes at or below 200 percent of the federal poverty level received any dental service in 1996. Among all children age 2 to 17 years, 48 percent had a dental service during that year.[1]

Increased access to oral health services, such as the application of topical fluorides and dental sealants, as well as parent/caregiver education in preventing the transmission of bacteria that cause caries, tooth brushing and good diet, are keys to reducing the rate of tooth decay and other oral diseases among children.[1,6]

A growing number of research projects, conferences, and publications nationally emphasize the need for greater attention to improving children's dental care and oral health.

Healthy People 2010, published by DHHS in November 2000, stated that, "to promote oral health and prevent oral diseases, oral health literacy among all groups is necessary. In addition, oral health services — preventive and restorative — should be available, accessible, and acceptable to all persons in the United States. In areas where different languages, culture, and health care beliefs would otherwise be barriers to care, a cadre of clinically and culturally competent providers must be available to provide care."[7]

In 2003, the Office of the Surgeon General published a "Framework for Action" to improve oral health among all Americans. This plan is aimed at broadening public understanding of the importance of oral health and its relevance to general health and well-being, as well as ensuring that existing and future preventive, diagnostic, and treatment measures for oral diseases are made available to all Americans. The principal components of the plan are included in this report as Appendix A.

Building on this momentum, the Association of State and Territorial Health Officials researched and detailed five states' initiatives to improve children's access to oral health services. The initiatives involve collaborations with Medicaid, educational institutions and private partners, and include addressing workforce issues and providing oral health education to communities.[12]

The Burden of Oral Diseases and Disorders Among Children

Oral diseases are progressive and cumulative and become more complex over time. A child's ability to learn and articulate can be affected by problems of the teeth and gums. The following are some key facts about oral health and children:

- Over 50 percent of 5- to 9-year-old children have at least one cavity or filling, and that proportion increases to 78 percent among 17-year-olds.
- There are striking disparities in dental disease by income. Poor children suffer twice as much caries (tooth decay) as their more affluent peers, and their disease is more likely to be untreated. These differences continue into adolescence.
- Tobacco-related oral lesions are prevalent in adolescents who currently use smokeless (spit) tobacco.
- Professional care is necessary for maintaining oral health, yet 25 percent of poor children have not seen a dentist before entering kindergarten.
- Nationally, fewer than one in five Medicaid-covered children received a single dental visit in a recent year-long study period.
- The social impact of oral diseases in children is substantial. Poor children suffer nearly 12 times more restricted-activity days than children from higher-income families. Pain and suffering due to untreated diseases can lead to problems in eating, speaking, and learning.

Source: U.S. Department of Health and Human Services. Oral Health in America: A Report of the Surgeon General*, 2000*.

Using methodology developed by the National Committee for Quality Assurance (NCQA) for the Health Plan Employer Data and Information Set (HEDIS®), AHCCCS collects and reports a rate of annual dental visits for children and adolescents enrolled with acute-care health plans (Contractors). In contract year ending (CYE) 2002, approximately 48 percent of members 3 through 20 years old who were eligible under Medicaid and continuously enrolled with an acute-care Contractor during the measurement period had at least one visit to a dentist. This compares with an average of approximately 37 percent for annual dental visits for all Medicaid health plans reporting their rates to NCQA in 2002. The rate of annual dental visits among members enrolled in AHCCCS under KidsCare (the State Children's Health Insurance Program or SCHIP) was approximately 57 percent in CYE 2002.

AHCCCS and Healthy People Goals

AHCCCS has established long-range goals, or benchmarks, for Contractors to achieve in ensuring annual dental visits among children and adolescents, based on the objective set by the United States Department of Health and Human Services (DHHS) in *Healthy People 2010*. The Healthy People 2010 objective is to increase the proportion of children and adults who use the oral health care system each year (i.e., have an annual dental visit) to 56 percent. Likewise, AHCCCS has established a benchmark of 56 percent for children's annual dental visits. This benchmark applies to acute-care Contractors and the Department of Economic Security's two programs that serve AHCCCS-eligible children, the Comprehensive Medical and Dental Program (CMDP) and the Division of Developmental Disabilities (DDD).

Purpose

The purpose of the Oral Health Performance Improvement Project (PIP) is to increase the rate of annual dental visits among AHCCCS members 3 through 20 years old, in order to make more progress toward the AHCCCS benchmark and national "Healthy People 2010" goal. As a first step, AHCCCS established a baseline measure of annual dental visits overall and by Contractor from which to measure improvement. This baseline measure also serves as the AHCCCS Annual Medical Audit.

While all AHCCCS members up to 21 years of age should have an annual dental visit, the project specifically focuses on those who are 3 through 8 years old for the acute-care, CMDP, KidsCare and DDD populations. As previously noted, literature suggests that the rate of tooth decay increases dramatically between the ages of 3 through 8; thus, this appears to be a critical time in a child's life to ensure that he or she receives regular preventive dental care. All members 3 through 20 years who were enrolled in the Arizona Long Term Care System (ALTCS) are included in the measurement, in order to have an adequate number from which to draw valid conclusions for that population.

Because of differences between program populations, each was analyzed separately. For example, children enrolled in ALTCS and DDD have special health care needs and may experience unique challenges or barriers in accessing dental care.

II. QUALITY INDICATORS

1. The number of members ages 3 through 8 years who were enrolled with acute-care Contractors under Medicaid (Title XIX) and had at least one dental visit for preventive or treatment purposes during the measurement period.
2. The number of members ages 3 through 8 years who were enrolled with CMDP under Medicaid and had at least one dental visit for preventive or treatment purposes during the measurement period.
3. The number of members ages 3 through 8 years who were enrolled with acute-care Contractors under KidsCare (Title XXI) and had at least one dental visit for preventive or treatment purposes during the measurement period.
4. The number of members ages 3 through 8 years who were enrolled with DDD and had at least one dental visit for preventive or treatment purposes during the measurement period.
5. The number of members ages 3 through 20 years who were enrolled with ALTCS Contractors as physically disabled or ventilator-dependent and had at least one dental visit for preventive or treatment purposes during the measurement period.

III. METHODOLOGY

Population

The study population consisted of all members who met the following criteria:

- For the acute-care, CMDP, KidsCare and DDD populations, children ages 3 through 8 who were continuously enrolled during the measurement period; or for the ALTCS population, members ages 3 through 20 who were continuously enrolled during the measurement period,
- who were enrolled as of September 30, 2002, and
- who had no more than one break in enrollment, not exceeding 31 days.

Measurement Period

The measurement period was October 1, 2001, through September 30, 2002.

Data Collection

All data were collected from AHCCCS administrative data. Recipient enrollment data were used to identify members who met the denominator criteria, and encounter data (claims paid by Contractors known as encounters) were used to identify members who received dental services.

Data Validation

As part of this project, AHCCCS also validated dental visits found in AHCCCS administrative data against members' dental or medical charts, using a double-blind process. A validation sample was selected from the baseline numerator, stratified by program (Medicaid acute-care, KidsCare, etc.) and by Contractor (because of the relatively small ALTCS population, all children in the baseline numerator were included in the validation sample). Sample selection was calculated to provide a 95-percent confidence level and a 5-percent confidence interval.

Contractors verified from dental service records or medical charts that each member in the sample received at least one dental service during the measurement period. Contractors were provided up to five different dates of service for each member, but needed to verify only one date of service during the measurement period. Contractors provided to AHCCCS a copy of the pertinent section of the dental or medical chart for validation of the encounter. If a Contractor could not locate a record for any of the dates of service provided for a member in the sample, the Contractor was asked to provide documentation of any date of dental service within the measurement period by providing a copy of the pertinent section of the dental or medical chart. AHCCCS randomly verified that copies of the pertinent sections of medical or dental services records provided by Contractors corresponded to services selected for the baseline numerator from the AHCCCS encounter system.

IV. RESULTS

Baseline Measurement

The total number of members selected for the baseline measurement, including all programs, was 76,702. Of these members, 39,423 members (51.4 percent) had at least one encounter for a dental visit during the measurement period.

Children enrolled with Acute-care Contractors under Medicaid

For the baseline measurement, 65,115 members met the sample frame criteria (Table 1). Encounters for one or more dental visits during the measurement period were found in AHCCCS administrative data for 33,374 children (51.3 percent). The highest percentage of dental visits was in Maricopa County, at 53.5 percent, compared with Pima County (47.6 percent) and the combined rural counties (49.2 percent).

By Contractor, rates ranged from 48.9 percent to 54.0 percent (Table 2).

Children enrolled with Acute-care Contractors under KidsCare

For the baseline measurement, 7,873 members met the sample frame criteria (Table 3). Encounters for one or more dental visits during the measurement period were found in AHCCCS administrative data for 4,685 children (59.5 percent). The highest percentage of dental visits was in Maricopa County, at 62.5 percent, compared with Pima County (53.4 percent) and the combined rural counties (56.4 percent).

By Contractor, rates ranged from 54.0 percent to 66.0 percent (Table 4).

Children enrolled with DES/CMDP

For the baseline measurement, 722 members met the sample frame criteria (Table 5). Encounters for one or more dental visits during the measurement period were found in AHCCCS administrative data for 443 children (61.4 percent). The highest percentage of dental visits was in Pima County, at 63.6 percent, compared with Maricopa County (60.0 percent) and the combined rural counties (60.7 percent).

Children enrolled with DES/DDD

For the baseline measurement, 2,918 members met the sample frame criteria (Table 6). Encounters for one or more dental visits during the measurement period were found in AHCCCS administrative data for 903 children (30.9 percent).

The highest percentage of dental visits was in Pima County, at 35.9 percent, compared with Maricopa County (31.2 percent) and the combined rural counties (26.4 percent).

Children enrolled with ALTCS Contractors

For the baseline measurement, 74 members met the sample frame criteria (Tables 7). Encounters for one or more dental visits during the measurement period were found in AHCCCS administrative data for 18 children (24.3 percent).

By Contractor, rates ranged from 16.7 percent to 50.0 percent (Table 8). However, because only a small number of ALTCS members met the criteria for inclusion in this study, valid conclusions can only be made overall, not by county or by Contractor.

Data Validation

From all programs, 2,023 members were selected from the baseline numerator and sent to Contractors for validation (Table 9). Encounters for 97.2 percent of the validation sample were validated against dental or medical charts. For the remaining 2.8 percent, encounters could not be validated because no dental services within the measurement period were found in members' records or the charts could not be obtained by Contractors.

By program, the percent of dental encounters validated against dental or medical charts were as follows: acute-care members enrolled under Medicaid, 97.3 percent; members enrolled under KidsCare, 98.0 percent; members enrolled with DES/CMDP, 97.4 percent; members enrolled with DES/DDD, 92.5 percent; and members enrolled with ALTCS Contractors, 88.9 percent. These results demonstrate a high degree of validity of the baseline measurement, as obtained from the AHCCCS encounter system.

V. ANALYSIS

Overall Results

Data analysis using Pearson's Chi-square revealed that children enrolled in AHCCCS under CMDP or KidsCare were more likely to have an annual dental visit than children enrolled under Medicaid, DDD or ALTCS ($p<.001$ for all comparisons). Overall, children in Maricopa County were more likely to have an annual dental visit than those living in Pima County or the rural counties combined ($p<.001$).

Comparisons with Other Benchmarks

Rates for dental visits among children 3 through 8 years old who were enrolled with acute-care Contractors under both Medicaid and KidsCare were slightly higher than overall rates for members 3 through 20 years old, as measured by the AHCCCS Performance Indicator for the same measurement period. For CYE 2002, 47.8 percent of members 3 through 20 years old who were enrolled under Medicaid had dental visits (compared with 51.3 percent of children 3 to 8 years), and 57.3 percent of members enrolled under KidsCare had visits (compared with 59.5 percent of children 3 to 8 years).

The lower rate among members 3 through 20, compared with younger children only, probably reflects a pattern of decreasing dental utilization among adolescents. Other data collected by AHCCCS show the proportion of members receiving dental services peaks in the age range of 6 to 9 years and progressively declines in the 10- to 14-, 15- to 18- and 19- to 20-year-old groups.[13]

Rates for 3- through 8-year-olds enrolled in AHCCCS under Medicaid, CMDP and KidsCare compare favorably to national rates measured under HEDIS. Rates for AHCCCS children enrolled in DDD and ALTCS were lower than the 2002 Medicaid HEDIS averages for members 3 through 20. As previously noted, the mean for all Medicaid plans reporting rates for annual dental visits in 2002 was 37.4 percent. The best performing Medicaid plans (90th percentile) nationally recorded a rate of 53.4 percent.

Preventive Care vs. Treatment

AHCCCS also analyzed the percent of children who had only preventive dental services during the measurement period, compared with treatment only or both preventive and treatment services (Table 10). Of all children with a dental visit, 40.3 percent received preventive services only, 2.5 percent had treatment services only, and 57.2 percent had both preventive and treatment services.

The majority of children enrolled under Medicaid and KidsCare received both preventive and treatment services (57.1 percent and 61.3 percent, respectively). More than half of children enrolled in CMDP, DDD and ALTCS received preventive services only (rates were 52.8 percent, 50.7 percent and 77.8 percent, respectively).

VI. CONCLUSIONS AND RECOMMENDATIONS

Overall Performance

Overall, the baseline study for this project indicates that more than half of AHCCCS members had at least one dental visit within the measurement year. Rates of annual dental visits for children enrolled under KidsCare and DES/CMDP exceeded the Healthy People 2010 objective of 56 percent.

The higher rate of visits among KidsCare members could be due to the fact that parents of many of those children pay a premium for coverage and thus may be more likely to ensure that their children utilize benefits, including dental services. Likewise, children enrolled with CMDP may be more likely to receive dental care because they are in a foster-care system in which case managers and conscientious foster parents ensure that these members receive dental services.

Children with Special Health Care Needs

Eligibility criteria for children who are developmentally or physically disabled allow these members to quality for AHCCCS, even though they may have another source of medical coverage, such as private insurance. The low rates of dental visits among DDD and ALTCS members, as measured through this study, may be due to the fact that many of these children received services that were covered by another payer; thus, those encounters were not reported to AHCCCS.

In addition, the low rates may reflect the challenges faced by special needs children and their families in obtaining dental services: complex physical problems that demand integrated dental and medical care, a lack of dental provider capacity to meet these complex needs, and difficulty in simply getting children with physical or developmental disabilities to the dentist's office because of special equipment needed or behavioral issues. ADHS and the Arizona Dental Association are working to improve the number of dentists able to serve this group of patients by providing continuing education. AHCCCS Contractors may want to consider providing enhanced reimbursement to dentists who are treating members with special needs, as has been done in other states.

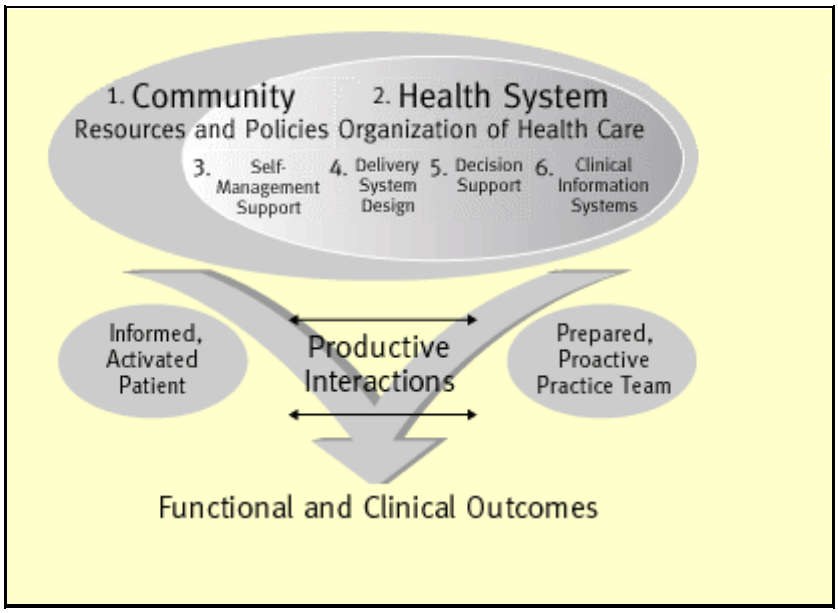
It should be noted that dental visit rates among children with special health care needs were higher in Pima County than in Maricopa or the combined rural counties. This is an area that warrants further examination to determine if there are differences in the dental network or overall accessibility in Pima County.

Interventions to Improve Quality

As shown in the baseline measurement for this project, there is room for improvement in ensuring children have access to dental services and better oral health. AHCCCS has provided baseline data from this study to all Contractors, who further analyzed their data and identified interventions to improve rates of annual dental visits. In the contract year ending September 30, 2004, Contractors are focusing interventions to improve the use of dental services and oral health among children enrolled in their plans.

To assist Contractors in improving or enhancing those interventions, the AHCCCS Clinical Quality Management Unit synthesized research and literature on oral health initiatives from a variety of sources (Table 11). The Chronic Care Model, developed by Wagner, et al, of the MacColl Institute for Healthcare Innovation at Group Health Cooperative, was adapted for use in organizing various interventions for improving oral health. The model identifies essential elements of a health care system that encourage high-quality care.

The Chronic Care Model



From Wagner EH. Chronic disease management: What will it take to improve care for chronic illness? Effective Clinical Practice 1998;1:2-4. Copyright ACP-ASIM Journals and Books. Reprinted with permission.

Elements of the model include:

- Community resources and policies. Care can be improved by making the most of existing community programs and resources, as well as raising community awareness about preventive health, specific diseases, and chronic illnesses.
- Health system organization. Changes in the health care system, including positive incentives for physicians, nurses and other providers to change their practices, is another element of improving care.
- Self-management support. Patients must take better care of themselves to prevent disease or keep their chronic illness under control, and need to be trained in proven methods of minimizing complications, symptoms and disabilities.
- Delivery system design. Improving health requires not only determining what care is needed, but ensuring a patient gets that care; for example, designating provider staff to call patients with reminders that they are due for a preventive-care service.
- Decision support. This element includes explicit, proven treatment guidelines based on scientific research, ensuring that patients understand these guidelines and the principles behind their care, ongoing provider education, and better feedback to primary care physicians or joint consultation when a patient is referred to a specialist.
- Clinical information systems. Effective care requires information systems that track individual patients as well as populations.

By ensuring that each of these elements is adequately addressed, health care organizations can expect healthier patients, more satisfied providers, and cost savings.[14]

Performance Improvement Goals

Through this Performance Improvement Project, all Contractors are expected to increase their rates of annual dental visits. Contractors should strive to meet or exceed the Healthy People 2010 goal or the AHCCCS overall average for their respective program; i.e., Medicaid acute-care, KidsCare, etc. (Figures 1 through 4). A Contractor will show improvement when:

- It meets or exceeds the next highest threshold (e.g., the AHCCCS overall average) above its baseline rate,
- It "narrows the gap" between its baseline rate and the next highest threshold by at least 10 percent, or
- It maintains a rate above the highest threshold, which is the Healthy People 2010 goal, if its baseline rate already exceeds that level.

AHCCCS will work with Contractors, especially those with the lowest rates, to assist them in making progress toward these goals for performance improvement. Remeasurements to evaluate progress will occur in contract years 2004 and 2005.

VII. REFERENCES

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Table 1

Arizona Health Care Cost Containment System (AHCCCS)

CYE 2003 PERFORMANCE IMPROVEMENT PROJECT (PIP):

CHILDREN'S ORAL HEALTH VISITS

Members Enrolled with Acute-care Contractors under Medicaid

Measurement Period: October 1, 2001, to September 30, 2002

County	Number of Members	Number with One or More Dental Visits	Percent with One or More Dental Visits
Maricopa County	35,296	18,889	53.5%
Pima County	11,851	5,642	47.6%
Rural Counties	17,968	8,843	49.2%
TOTAL	65,115	33,374	51.3%

Table 2

Arizona Health Care Cost Containment System (AHCCCS)

CYE 2003 PERFORMANCE IMPROVEMENT PROJECT (PIP):

CHILDREN'S ORAL HEALTH VISITS

Members Enrolled with Acute-care Contractors under Medicaid

Measurement Period: October 1, 2001, to September 30, 2002

Contractor	Number of Members	Number with One or More Dental Visits	Percent with One or More Dental Visits
AZ Physicians IPA	25,075	12,428	49.6%
Health Choice AZ	6,521	3,248	49.8%
Maricopa Health Plan	4,468	2,186	48.9%
Mercy Care Plan	18,170	9,746	53.6%
Phoenix Health Plan/CC	7,861	4,242	54.0%
Pima Health System	1,057	542	51.3%
University Family Care	1,963	982	50.0%
TOTAL	65,115	33,374	51.3%

Table 3

Arizona Health Care Cost Containment System (AHCCCS)

CYE 2003 PERFORMANCE IMPROVEMENT PROJECT (PIP):

CHILDREN'S ORAL HEALTH VISITS

Members Enrolled with Acute-care Contractors under KidsCare

Measurement Period: October 1, 2001, to September 30, 2002

County	Number of Members	Number with One or More Dental Visits	Percent with One or More Dental Visits
Maricopa County	4,722	2,949	62.5%
Pima County	1,389	742	53.4%
Rural Counties	1,762	994	56.4%
TOTAL	7,873	4,685	59.5%

Table 4

Arizona Health Care Cost Containment System (AHCCCS)

CYE 2003 PERFORMANCE IMPROVEMENT PROJECT (PIP):

CHILDREN'S ORAL HEALTH VISITS

Members Enrolled with Acute-care Contractors under KidsCare

Measurement Period: October 1, 2001, to September 30, 2002

Contractor	Number of Members	Number with One or More Dental Visits	Percent with One or More Dental Visits
AZ Physicians IPA	2,946	1,591	54.0%
Health Choice AZ	733	425	58.0%
Maricopa Health Plan	580	367	63.3%
Mercy Care Plan	2,176	1,398	64.2%
Phoenix Health Plan/CC	1,111	709	63.8%
Pima Health System	94	62	66.0%
University Family Care	233	133	57.1%
TOTAL	7,873	4,685	59.5%

Table 5

CYE 2003 PERFORMANCE IMPROVEMENT PROJECT (PIP):

CHILDREN'S ORAL HEALTH VISITS

Members Enrolled with DES/CMDP

Measurement Period: October 1, 2001, to September 30, 2002

County	Number of Members	Number with One or More Dental Visits	Percent with One or More Dental Visits
Maricopa County	340	204	60.0%
Pima County	247	157	63.6%
Rural Counties	135	82	60.7%
TOTAL	722	443	61.4%

Table 6

CYE 2003 PERFORMANCE IMPROVEMENT PROJECT (PIP):

CHILDREN'S ORAL HEALTH VISITS

Members Enrolled with DES/DDD

Measurement Period: October 1, 2001, to September 30, 2002

County	Number of Members	Number with One or More Dental Visits	Percent with One or More Dental Visits
Maricopa County	1,922	599	31.2%
Pima County	432	155	35.9%
Rural Counties	564	149	26.4%
TOTAL	2,918	903	30.9%

Table 7

CYE 2003 PERFORMANCE IMPROVEMENT PROJECT (PIP):

CHILDREN'S ORAL HEALTH VISITS

Members Enrolled with ALTCS

Measurement Period: October 1, 2001, to September 30, 2002

County	Number of Members	Number with One or More Dental Visits	Percent with One or More Dental Visits
Maricopa County	21	4	19.0%
Pima County	7	2	28.6%
Rural Counties	46	12	26.1%
TOTAL	74	18	24.3%

Table 8

CYE 2003 PERFORMANCE IMPROVEMENT PROJECT (PIP):

CHILDREN'S ORAL HEALTH VISITS

Members Enrolled with ALTCS

Measurement Period: October 1, 2001, to September 30, 2002

Contractor	Number of Members	Number with One or More Dental Visits	Percent with One or More Dental Visits
Evercare Select	41	7	17.1%
Maricopa Health Plan LTC	5	1	20.0%
Mercy Care Plan LTC	4	2	50.0%
Pima Health System LTC	7	2	28.6%
Pinal/Gila County LTC	6	1	16.7%
Yavapai County LTC	11	5	45.5%
TOTAL	74	18	24.3%

Cochise Health Systems is not included because no members meeting the enrollment criteria were selected for this Contractor.

Table 9
CYE 2003 PERFORMANCE IMPROVEMENT PROJECT (PIP):
CHILDREN'S ORAL HEALTH VISITS
Data Validation Results
ALL PROGRAMS
Measurement Period: October 1, 2001, to September 30, 2002

Program	Number of Members in Validation Sample	Number for whom No Record was Found	Number with Visits Not Found in Records	Number with Visits Validated by Chart Review	Percent Visits Validated by Chart Review
Medicaid	995	24	3	968	97.3%
KidsCare	760	14	1	745	98.0%
DES/CMDP	117	0	3	114	97.4%
DES/DDD	133	0	10	123	92.5%
ALTCS	18	0	2	16	88.9%
TOTAL	2,023	38	19	1,966	97.2%

Table 10
CYE 2003 PERFORMANCE IMPROVEMENT PROJECT (PIP):
CHILDREN'S ORAL HEALTH VISITS
Dental Services by Type
ALL PROGRAMS
Measurement Period: October 1, 2001, to September 30, 2002

Program	Number of Members with Dental Visits	Number with Preventive Services Only	Percent with Preventive Services Only	Number with Treatment Services Only	Percent with Treatment Services Only	Number with both Preventive and Treatment Services	Percent with both Preventive and Treatment Services
Medicaid	33,374	13,457	40.3%	849	2.5%	19,068	57.1%
KidsCare	4685	1709	36.5%	103	2.2%	2873	61.3%
DES/CMDP	443	234	52.8%	11	2.5%	198	44.7%
DES/DDD	903	458	50.7%	23	2.5%	422	46.7%
ALTCS	18	14	77.8%	0	0.0%	4	22.2%
TOTAL	39,423	15,872	40.3%	986	2.5%	22,565	57.2%

Table 11

Possible Health Plan Interventions to Improve Rates of Annual Dental Visits by Children

The following table includes interventions that are under way or that should be considered by AHCCCS Contractors to improve children's access to oral health services and rates of annual dental visits. The Chronic Care Model, developed by Wagner, et al, of the MacColl Institute for Healthcare Innovation at Group Health Cooperative, was adapted for use in organizing various interventions for improving oral health. The model identifies essential elements of a health care system that encourage high-quality care. By ensuring that each of these elements is adequately addressed, health care organizations can expect healthier patients, more satisfied providers, and cost savings.[1] Interventions in bold are those that could be considered by Contractors as new strategies for quality improvement.

Community Linkages	**Health System**	**Self-Management Support**	**Delivery System Design**	**Decision Support**	**Clinical Information Systems**
Collaborate with Arizona Department of Health Services Office of Oral Health (OOH) on RWJ Foundation grant activities; utilize as a resource for provider and member education Participate on AHCCCS work group to increase the number of children 6 years and younger who have all necessary well-child visits, per State School Readiness Board recommendation	Create a culture at all levels of the organization to reinforce the importance of well-child/adolescent screenings and services, with oral health as an integral part of those services **Adapt "Take Five" campaign, which encouraged all dentists in Georgia to accept five new Medicaid patients each year; could be done at the plan level, with provider incentives**	**Utilize promotoras/lay health outreach workers for community dental outreach and education** Reinforce messages (mail, phone, etc.) to members/parents regarding: • the importance of good oral health and its relationship to overall health • the positive outcomes of preventive dental care • address fears associated with dental procedures	Improve education of Primary Care Providers (physicians, PAs, NPs) and office/ clinic staff about oral health issues: • early detection of dental disease • EPSDT requirements/ referral for treatment or preventive visits • education of parents about the importance of regular dental care Ensure care and information are understood by patients and are culturally relevant	Promote CME course for PCPs to improve oral health screening skills (available from OOH via internet) Reinforce PCP use of guidelines for oral health screening during exams and referral based on those findings, per the AHCCCS Medical Policy Manual Develop utilization profiles and provide feedback to dental providers on visit rates	Monitor dental performance indicator/utilization rates quarterly: • overall • by county/ geographic area • by provider group • by population **Develop dental tracking database (i.e., electronic registry) that is proactive in nature (e.g., anticipates when visits are due) and ensures treatment is completed; could be shared by Contractors and providers**

Community Linkages	**Health System**	**Self-Management Support**	**Delivery System Design**	**Decision Support**	**Clinical Information Systems**
Participate/ collaborate with programs such as Head Start (Health and Disabilities subcommittee), the Arizona Early Intervention Program, WIC and Health Start or Healthy Start community programs for pregnant women and mothers with young children to assist in reaching/ educating members; Refer/encourage members to participate in these programs Tie in outreach efforts with related activities/events (e.g., National Children's Dental Health Month) and/or coordinating media campaigns with other Health Plans to reinforce messages	Ensure reimbursement rates reflect marketplace levels Reduce "hassle factor" for dentists (e.g., contracting, prior authorization and billing procedures) Take dental screening/services into community (e.g., contract with OOH school dental screening/sealant program; sponsor medical/dental screening and health fair with contracted dentists) **Utilize "pay-for-performance" strategies to reward PCPs and/or dentists who meet specific benchmarks for dental services**	**Consider ways to improve members' "health literacy"** Offer incentives that are valued by members to encourage them to seek dental care Organize internal and community resources to provide ongoing self-management support to members, including following up with members who miss appointments and arranging for transportation when necessary Make or collaborate with organizations that make home visits to reinforce education about oral health and importance of regular dental care	Provide case management services for families at risk (i.e.: numerous children, poor dental history, non-compliant, serious health issues) Ensure continuity and regular follow up by the care team Monitor provider's use of EPSDT tracking forms **Support incentives to dental providers to extend office hours and/or days to assist members in making dental appointments** **Support systems for information flow and coordination of care between dentists and PCPs; (e.g., send dental visit reports through Contractors**	Utilize dental consultants to review utilization patterns, practice guidelines and/or treatment plans for specific members Train/empower Health Plan staff (provider representatives, MCH/EPSDT specialists) to reinforce education and clinical practice guidelines with providers	Incorporate medical and/or dental chart audits into performance monitoring processes Capture dental referral data from EPSDT Tracking Forms for follow up to ensure that appointment was completed

Community Linkages	Health System	Self-Management Support	Delivery System Design	Decision Support	Clinical Information Systems
Collaborate with Arizona Dental Association, American Academy of Pediatrics, the Arizona Medical Association Committee on Maternal and Child Health and other professional organizations to reinforce provider education and identify/ address barriers to dental care	Evaluate standard outreach methods (mailings, postcard reminders, and phone calls), including use of member or provider focus groups to identify barriers to dental care and effectiveness of specific outreach strategies	Use Contractor staff and/or dental providers to make educational presentations in schools, provide educational materials and other items, such as toothbrushes, to take home	Consider employing a dental director at the Contractor and AHCCCS levels		

[1] Improving Chronic Illness Care. Overview of the Chronic Care Model. Available at: http://improvingchroniccare.org/change/model/components.html

Figure 1
Arizona Health Care Cost Containment System (AHCCCS)
CYE 2003 PERFORMANCE IMPROVEMENT PROJECT: BASELINE MEASUREMENT
CHILDREN'S ORAL HEALTH VISITS
Members Enrolled with Acute-Care Contractors under Medicaid
Measurement Period: October 1, 2001, to September 30, 2002

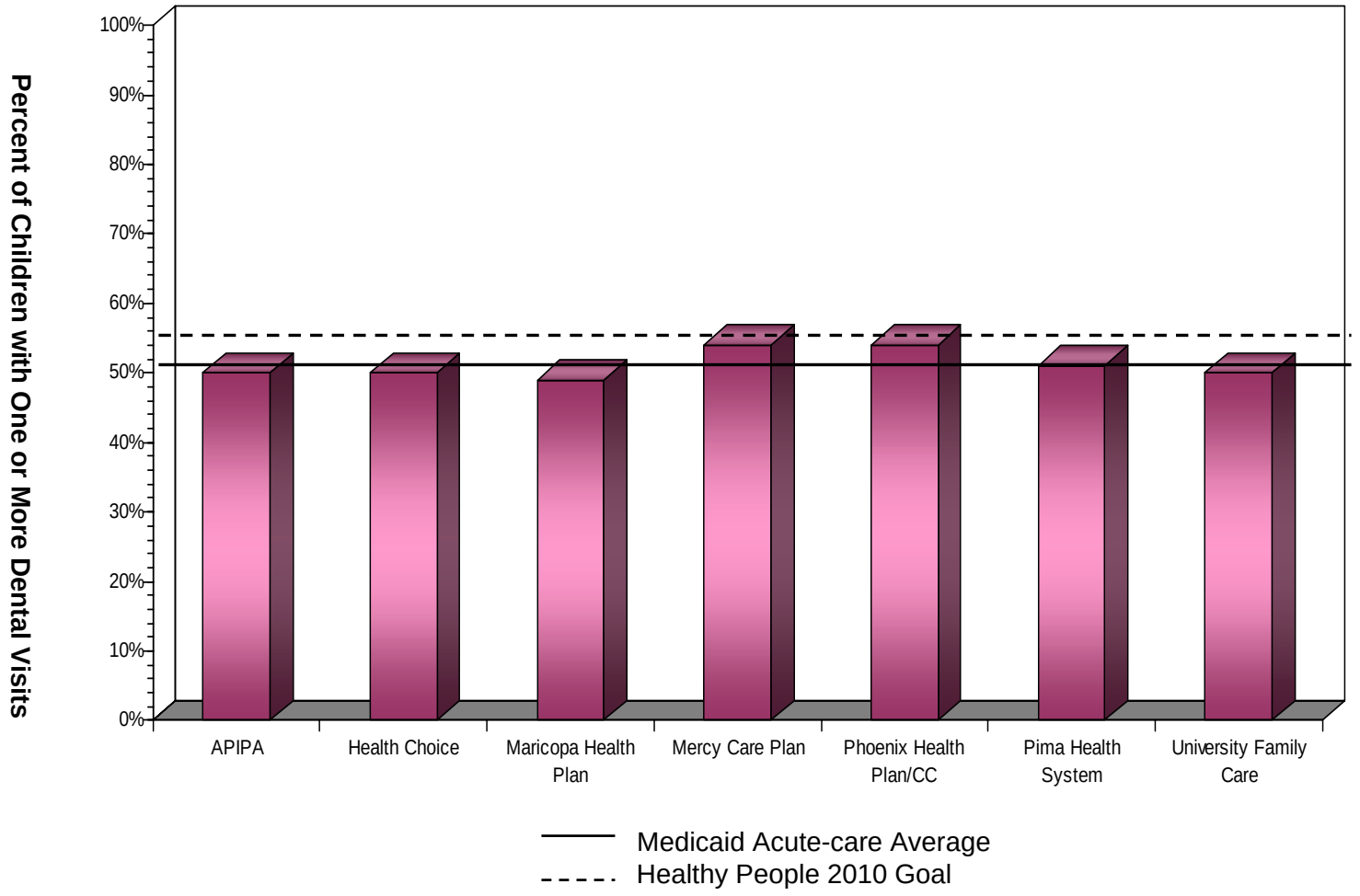


Figure 2
Arizona Health Care Cost Containment System (AHCCCS)
CYE 2003 PERFORMANCE IMPROVEMENT PROJECT: BASELINE MEASUREMENT
CHILDREN'S ORAL HEALTH VISITS
Members Enrolled with Acute-Care Contractors under KidsCare
Measurement Period: October 1, 2001, to September 30, 2002

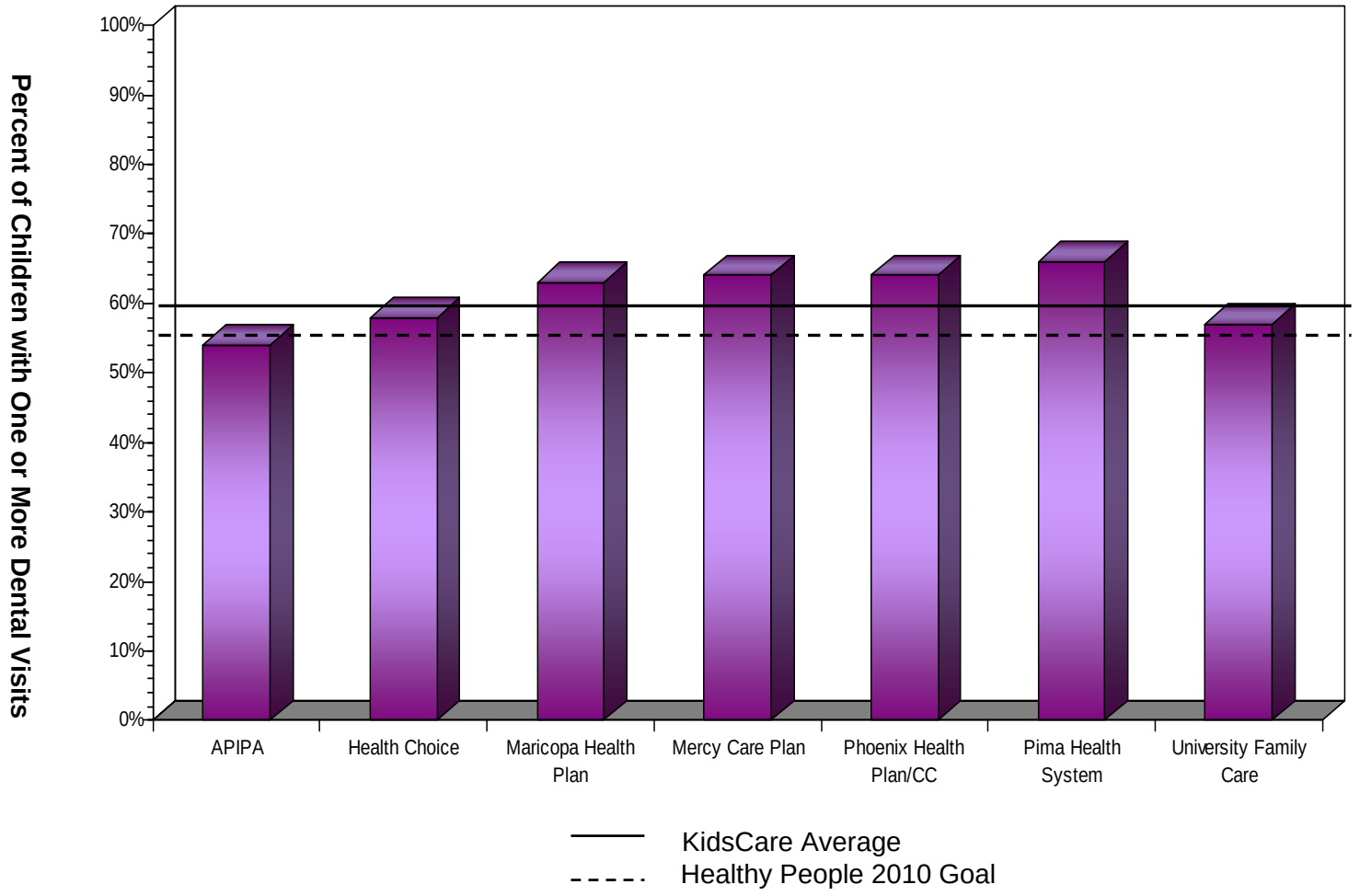


Figure 3
Arizona Health Care Cost Containment System (AHCCCS)
CYE 2003 PERFORMANCE IMPROVEMENT PROJECT: BASELINE MEASUREMENT
CHILDREN'S ORAL HEALTH VISITS
Members Enrolled with DES
Measurement Period: October 1, 2001, to September 30, 2002

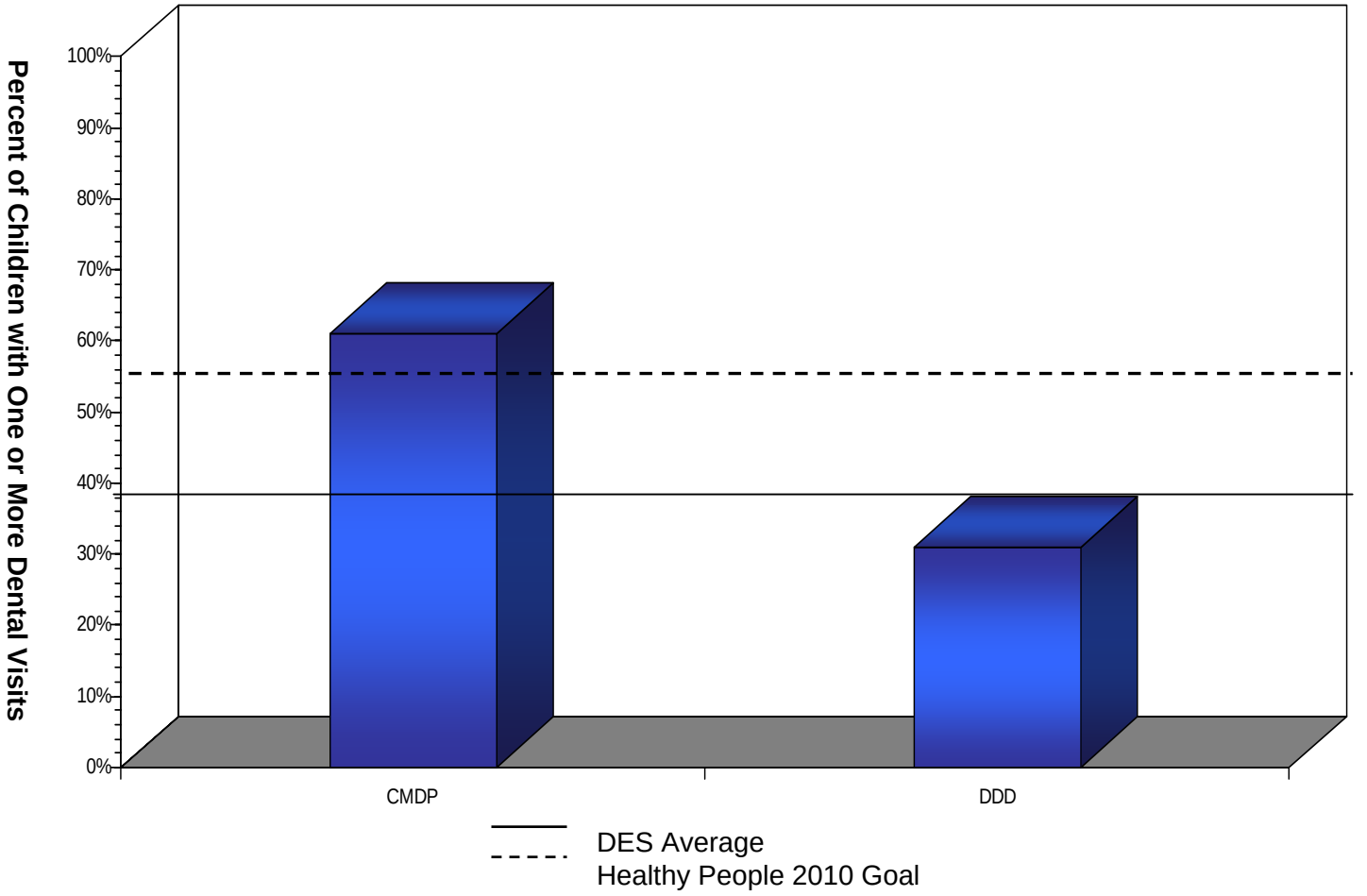
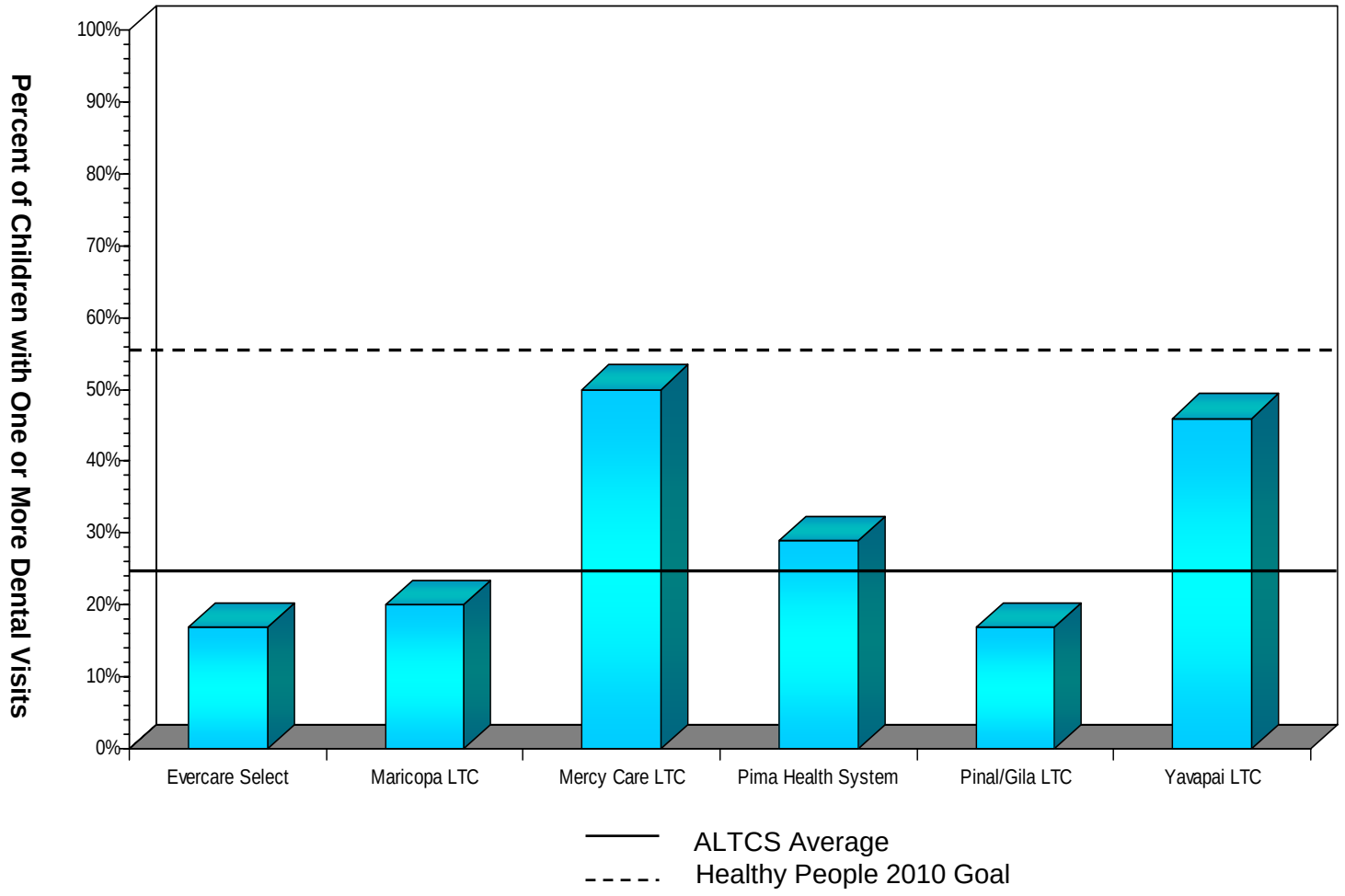


Figure 4
Arizona Health Care Cost Containment System (AHCCCS)
CYE 2003 PERFORMANCE IMPROVEMENT PROJECT: BASELINE MEASUREMENT
CHILDREN'S ORAL HEALTH VISITS
Members Enrolled with ALTCS Contractors
Measurement Period: October 1, 2001, to September 30, 2002



APPENDIX

A FRAMEWORK FOR ACTION

Oral Health in America: A Report of the Surgeon General, is the first report by the Surgeon General of the United States Public Health Service to focus exclusively on oral, dental, and craniofacial health. The report was commissioned by the Secretary of Health and Human Services upon the recommendation of the Surgeon General, on April 9, 1997.

The major message of this report is that oral health is essential to the general health and well-being of all Americans and can be achieved through community, provider, and personal services and programs. The following are the principal components of the plan.

Change perceptions regarding oral health and disease so that oral health becomes an accepted component of general health.

- *Change public perceptions.* Many people consider oral signs and symptoms to be less important than indications of general illness. As a result, they may avoid or postpone needed care, thus exacerbating the problem. If we are to increase the capacity to improve oral health and reduce health disparities, we need to enhance public understanding of the meaning of oral health and the relationship of the mouth to the rest of the body. These messages should take into account the multiple languages and cultural traditions that characterize American diversity.

- *Change policymakers' perceptions.* Informed policymakers at the local, state, and federal levels are critical in ensuring the inclusion of oral health services in health promotion and disease prevention programs, care delivery systems, and reimbursement schedules. Raising awareness of oral health among legislators and public officials at all levels of government is essential to creating effective public policy to improve oral health. Every conceivable avenue should be used to inform policymakers — informally through their organizations and affiliations and formally through their governmental offices — if rational oral health policy is to be formulated and effective programs implemented.

- *Change health providers' perceptions.* Too little time is devoted to oral health and disease topics in the education of nondental health professionals. Yet all care providers can and should contribute to enhancing oral health. This can be accomplished in several ways, such as including an oral examination as part of a general medical examination, advising patients in matters of tobacco cessation and diet, and referring patients to oral health practitioners for care prior to medical or surgical treatments that can damage oral tissues, such as cancer chemotherapy or radiation to the head and neck. Health care providers should be ready, willing, and able to work in collaboration to provide optimal health care for their patients. To prepare providers for such a role will involve, among other factors, curriculum changes and multidisciplinary training.

Accelerate the building of the science and evidence base and apply science effectively to improve oral health. Continued investment in research is critical for the provision of new knowledge about oral and general health and disease for years to come, and needs to be accelerated if further improvements are to be made. The challenge is to understand complex diseases caused by the interaction of multiple genes with environmental and behavioral variables — a description that applies to most oral diseases and disorders — and translate research findings into health care practice and healthy lifestyles.

Future data collection must address differences among the subpopulations making up racial and ethnic groups. More attention must also be paid to demographic variables such as age, sex, sexual orientation, and socioeconomic factors in determining health status. Clearly, the more detailed information that is available, the better can program planners establish priorities and targeted interventions.

Progress in elucidating the relationships between chronic oral inflammatory infections, such as periodontitis, and diabetes and glycemic control as well as other systemic conditions will require a similar intensified commitment to research. Improvements in oral health depend on multidisciplinary and interdisciplinary approaches to biomedical and behavioral research, including partnerships among researchers in the life and physical sciences, and on the ability of practitioners and the public to apply research findings effectively.

Build an effective health infrastructure that meets the oral health needs of all Americans and integrates oral health effectively into overall health.
Although the Healthy People 2010 objectives provide a blueprint for outcome measures, a national public health plan for oral health does not exist. Furthermore, local, state, and federal resources are limited in the personnel, equipment, and facilities available to support oral health programs.

APPENDIX

There is a lack of racial and ethnic diversity in the oral health workforce. Efforts to recruit members of minority groups to positions in health education, research, and practice in numbers that at least match their representation in the general population not only would enrich the talent pool, but also might result in a more equitable geographic distribution of care providers.

A closer look at trends in the workforce discloses a worrisome shortfall in the numbers of men and women choosing careers in oral health education and research. Government and private sector leaders are aware of the problem and are discussing ways to increase and diversify the talent pool, including easing the financial burden of professional education, but additional incentives may be necessary.

Remove known barriers between people and oral health services. Data indicate that lack of dental insurance, private or public, is one of several impediments to obtaining oral health care and accounts in part for the generally poorer oral health of those who live at or near the poverty line, lack health insurance, or lose their insurance upon retirement. The level of reimbursement for services also has been reported to be a problem and a disincentive to the participation of providers in certain public programs. Professional organizations and government agencies are cognizant of these problems and are exploring solutions that merit evaluation. In addition, individuals whose health is physically, mentally, and emotionally compromised need comprehensive integrated care.

Use public-private partnerships to improve the oral health of those who still suffer disproportionately from oral diseases. The collective and complementary talents of public health agencies, private industry, social services organizations, educators, health care providers, researchers, the media, community leaders, voluntary health organizations and consumer groups, and concerned citizens are vital if America is not just to reduce, but to eliminate, health disparities. Increased public-private partnerships are needed to educate the public, to educate health professionals, to conduct research, and to provide health care services and programs. These partnerships can build and strengthen cross-disciplinary, culturally competent, community-based, and community-wide efforts and demonstration programs to expand initiatives for health promotion and disease prevention. Examples of such efforts include programs to prevent tobacco use, promote better dietary choices, and encourage the use of protective gear to prevent sports injuries. In this way, partnerships uniting sports organizations, schools, the faith community, and other groups and leaders, working in concert with the health community, can contribute to improved oral and general health.